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At the margins of biomedicine: the ambiguous position of ‘Registered Medical Practitioners’ in rural Indian healthcare

Papreen Nahar¹, Nanda Kishore Kannuri²,
Sitamma Mikkilineni³, G.V.S. Murthy² and
Peter Phillimore⁴

¹*Centre for Primary Care, Institute of Population Health, University of Manchester, UK*

²*Indian Institute of Public Health, Hyderabad, India*

³*IBS, Hyderabad, India*

⁴*Sociology, School of Geography, Politics & Sociology, Newcastle University, UK*

Abstract This analysis challenges a tendency in public health and the social sciences to associate India’s medical pluralism with a distinction between biomedicine, as a homogeneous entity, and its non-biomedical ‘others’. We argue that this overdrawn dichotomy obscures the important part played by ‘informal’ biomedical practice, an issue with salience well beyond India. Based on a qualitative study in rural Andhra Pradesh, South India, we focus on a figure little discussed in the academic literature – the Registered Medical Practitioner (RMP) – who occupies a niche in the medical market-place as an informal exponent of biomedical treatment. We explore the significance of these practitioners by tracking diagnosis and treatment of one increasingly prominent medical ‘condition’, namely diabetes. The RMP, who despite the title is rarely registered, sheds light on the supposed formal-informal sector divide in India’s healthcare system, and its permeability in practice. We develop our analysis by contrasting two distinctive conceptualisations of ‘informality’ in relation to the state in India – one Sarah Pinto’s, the other Ananya Roy’s.

Keywords: informal practitioners, medical pluralism, RMP, healthcare system, South India, Diabetes

Introduction

Across low and middle income countries, particularly in rural settings, medical treatment and advice is often provided by practitioners who do not fit readily on either side of the dichotomy commonly drawn between biomedicine on the one hand and non-biomedical therapeutic approaches on the other. This paper examines one such case, in India, based on fieldwork in the southern state of Andhra Pradesh. Our analysis raises important issues for an understanding of the daily realities of available health care and medical treatment options in many rural contexts.¹

India's medical pluralism is well recognised in the social science and public health literature for its range and complexity (Broom *et al.* 2009, Hardiman and Mukharji 2012, Lambert 1996). Too often, however, there has been a tendency within the public health field and among health policymakers to take as a given that within this pluralism biomedicine is largely uniform. Thus, reference to medical pluralism in India from within the public health field habitually assumes a distinction between biomedicine, largely homogeneous, and the heterogeneous traditions and practices which collectively constitute biomedicine's 'others'.

The present study explores the limitations of such a blinkered view of biomedical practices. Part of the problem is that certain forms of biomedical practice are in effect invisible to those working in the formal health sector. Yet popular health-seeking practices often reveal surprising interconnections between different forms of biomedical treatment provision. Moreover, there are important implications for the minutiae of health system functioning arising from this structural invisibility and routinised neglect. This paper addresses these lacunae through an empirical study focusing on one kind of practitioner. The practitioner in question has a prominence in daily medical care in rural India which is scarcely reflected in the minimal attention given to this role in either the public health field or indeed, until recently, social science research. Our investigation takes as an exemplar medical condition the diagnosis and treatment of diabetes (type 2) – a disease of rapidly growing global significance.² The broader purpose of this analysis is to contribute to a better recognition of some of the complexities of medical pluralism within biomedicine in India.

To this end, we focus our attention on a somewhat ambiguous figure habitually known by the initials RMP, which in Andhra Pradesh stands for 'Registered Medical Practitioner'. Fundamental to the ambiguous position he occupies (nearly all are men) is his widespread popular recognition at village level, alongside his complete lack of recognition by the formal health system. Despite the 'registered' of the title, these practitioners are neither trained nor registered within the formal health system. These are practitioners who belong instead to what is often termed the informal sector. What makes them unusual among the many kinds of informal practitioner is that they typically present themselves as practising biomedicine (usually known by the locally more salient terms, allopathic medicine or 'English medicine').

There is a limited but now growing literature on India's RMPs – or those whose role is equivalent, for not all writers use the local term RMP. Some authors prefer a more general term like 'informal providers' (Gautham *et al.* 2014), or even 'non-degree allopathic practitioner' (Gautham *et al.* 2011, May *et al.* 2014), to characterise those who occupy this particular medical niche, the two terms highlighting respectively their informal sector location in the one case and their lack of appropriate credentials in the other. Even among those who use the term RMP there is a distinction apparent between those working in areas where the 'R' of RMP is said to stand for 'Rural' (Ecks and Basu 2009, 2014, Jeffery and Jeffery 2010a), and those where the 'R' stands for 'Registered' (Gautham *et al.* 2014, Lakshman and Nichter 2000). George and Iyer (2013), who also refer to Registered Medical Practitioners, offer useful historical background for this definitional issue. In the present context, RMP stands for *Registered Medical Practitioner*, as noted above.³

Questions of terminology and definition aside, there is considerable agreement in this emerging body of sociological literature about the attractions of accessibility and affordability of practitioners who are indeed unqualified, but who present themselves as offering biomedical treatment, especially in rural areas. In the words of George and Iyer (2013: 298):

In our study, we defined RMPs as private providers who provide allopathic curative care without having any of the degrees for medicine recognised by the Government of India.

While Gautham *et al.* (2014: 121) refer to the costliness of urban private healthcare before stating:

These factors have led rural and poor urban households to rely, to a large extent, on informal biomedical practitioners. . . and various types of traditional and folk healers . . . The former, also referred to as village doctors, village practitioners or Registered Medical Practitioners (RMPs) is the largest category of IPs (informal providers).

However, there are also divergences around one critical question, that of competence. Jeffery and Jeffery (2008, 2010a) in particular highlight the damaging role RMPs sometimes play in obstetric care in rural Uttar Pradesh; while Mondal (2015) also examines more general issues of *Rural Medical Practitioner* 'competence'. It is not that other authors discount these concerns altogether. Rather, they tend to highlight the pressing reasons why RMPs have a willing clientele. Further characteristics of RMP practices will be explored below.

The distinction we have mentioned several times already between formal and informal in Indian healthcare is itself, however, too simple. Several writers have noted how India's medical pluralism has fostered a blurring and blending of medical genres in a variety of hybrid – and also increasingly commercialised – forms (Hardiman and Mukharji 2012, Pinto 2004, Sujatha 2007). This convenient but over-simplified distinction between formal and informal health sectors lies at the heart of our paper; and our data testify to how permeable this dichotomy can be in the context of rural healthcare.⁴ One crucial facet of this is the symbiotic relationship between RMPs and medically qualified private specialists, a generally privileged (indeed sometimes elite) part of the formal sector. This connection reflects pragmatic patient preferences in treatment-seeking; it also brings mutual economic advantage for both sets of practitioners.

The prominence of the private sector in India's healthcare needs further comment. Despite the prominence of medical pluralism in India, arguably the most salient distinction lies within biomedicine, between public and private (Broom *et al.* 2009, Hodges 2013). While the urban middle class may regard government hospitals and clinics as being there largely for the poor, evidence suggests that the poor themselves equally regard government facilities as a last resort and best avoided when ill (Dreze and Sen 2005, Jeffery and Jeffery 2008, 2010a, 2010b, Pinto 2004). Thus, most sections of the population tend to prefer treatment in the private sector, to the extent that they can afford it, with the poorest predictably being the most burdened by out-of-pocket payments (D'Cruz and Bharat 2001, Reddy *et al.* 2005).⁵ This is true even of rural areas, where a private biomedical sector may seem conspicuously absent (Mohan *et al.* 2008). Yet as the previous paragraphs indicate, practitioners without formal qualifications widely supplement the provision of the more costly urban private biomedical clinics in many rural areas (Ashtekar and Mankad 2001, Gautham *et al.* 2014, Hardiman and Mukharji 2012, Sheehan 2009). The RMPs who are the focus of this paper provide an illuminating example, highlighting the often invisible intertwining of formal and informal in rural Indian healthcare.

Thus, our analysis explores the connections and disconnections between certain kinds of informal medical practice and the operation of the wider health system. By extension this leads to reflection on the role of the state in rural health care. While this is a question with relevance well beyond India itself, much of the existing literature focuses on South Asia (see Cross and MacGregor 2009, Sudhinaraset *et al.* 2013). The empirical core of this paper starts at village level, by examining what accounts for RMPs' popularity with clients. We then go on to examine the relationship between RMPs and the formal medical sector, both private and public. To situate our subsequent discussion, we contrast the insights of two important analysts of the relationship between informal practice and the state in India: Sarah Pinto (2004) and Ananya

Roy (2005, 2009). Pinto writes directly about the health sector and the role of certain kinds of informal medical practitioner. Her central argument is that the ubiquity of informal medicine in rural areas is a popular response to manifold gaps in the state's healthcare provision. Roy (2009: 81), by contrast, examines the entirely different context of urban planning in India, to argue that it is not simply the state's absence that fosters a tenacious informal sector but the state's presence also, for 'the state itself is a deeply informalised entity'. Both authors examine the manner in which informal non-regulated processes are embedded features of daily practice in different social arenas. However, their two perspectives – Pinto's bottom-up, Roy's largely top-down – help to highlight crucial (if unsurprising) differences between health care and urban planning, and thereby clarify the place of informality in the healthcare context.

Methodology

Setting

The primary research setting consisted of two neighbouring villages in Guntur District, some 30 kilometres south of the city of Guntur, in the state of Andhra Pradesh.⁶ Like many villages in the area, both had significant proportions of Hindus, Muslims and Christians. The smaller, Nagulapadu, had a population at of 5,400 at the 2011 Census, and is majority Hindu. The larger, Kommuru, had a population of 6,600, and is majority Muslim. In general, households in Nagulapadu are more affluent than those in Kommuru. The Christian minority in both villages is entirely of scheduled caste, and identifies as Dalit.⁷ Study participants came from all three religious communities (though Christians were minimally represented), as well as a range of economic and educational backgrounds. Neither village has a Government primary health centre, though each has a sub-centre. There were also seven RMPs in the two villages (four Hindu, three Muslim). Three of these had their own 'clinic' (a grand name for a separate consulting space), while the remainder practised from home. All were male.

Research Design

Data collection combined semi-structured interviews with patients and with key informants, group discussions, fieldwork conversations and observations. Twenty-one people (ten men, eleven women) suffering from type 2 diabetes were interviewed.⁸ These individuals were selected by community health professionals based in the two villages, from those aged 30–59 of whom they had personal knowledge. In each case, interviews took place in the interviewee's own home. In addition, five group discussions (with four to ten per group) were also conducted with villagers who did not have diabetes to gain a broader perspective on local understandings of the causes and consequences of diabetes. A further 11 individuals were identified as local key informants for interview, using a purposive approach to select categories of informant, and snowballing or opportunity sampling to select the specific individual. These included one auxiliary nurse midwife (ANM), one accredited social health activist (ASHA), one primary health centre (PHC) doctor, one PHC laboratory technician, one homeopathic doctor, one pharmacist, four (out of the seven) RMPs, and one herbalist. In Guntur, we also interviewed two private doctors who ran their own clinics and one clinic manager. Fieldwork conversations took place with a range of other individuals, including a number with public positions (for example, village council (*panchayat*) office holders, shopkeepers and a Hindu priest). These interviews and conversations were supplemented with observations of both Government and private clinics' practice, and RMP consultations.

Interviews with patients covered knowledge and beliefs about diabetes, treatment-seeking, the effects of ill-health, management of symptoms, medication, family support, and lifestyle.

Interviews with key informants covered the ways in which patients were treated or referred, the kinds of patient health information recorded (if any), and experiences or challenges providing treatment for diabetes.

The team designing the study and supervising data collection comprised three social anthropologists (PN, NKK, PP) and one social psychologist (SM), working under the auspices of a leading public health research institute in the region and its director (GVSM). Interviews with patients were conducted by two field assistants specially trained for the job. Training and piloting took place in Hyderabad and Guntur, led by PN. The two field assistants undertook all interviews with patients, closely supervised; while interviews with key informants and group discussions involved at least one of the authors (PN, NKK and SM, the last two of whom were Telugu speakers). These three also guided the ethnographic observations. Interview schedules were designed in English and translated into Telugu, with revisions after piloting. All interviews (with patients and health staff) were audio-recorded with consent (with only one refusal), and subsequently transcribed and translated into English, with translations by the field assistants checked by one of the Telugu-speaking authors (NKK and SM). Group discussions and fieldwork conversations were not taped, but were written up as field notes. Fieldwork took place intensively over the six months from January to June 2014. Prior ethical clearance was obtained from the Institutional Ethics Committee of the Indian Institute of Public Health in Hyderabad, which is part of the Public Health Foundation of India. Written consent was obtained for interviews with key informants. Verbal consent was obtained in the case of patients, anticipating that signed consent forms were likely to intimidate a number of those concerned.

Initially all data were coded manually by the first author to identify thematic content and patterns. These themes and sub-themes were corroborated and revised by the co-authors. A second phase of data collection was more intensive than we had initially envisaged as further questions emerged from the first phase of analysis. This led to supplementary interviews with patients and key informants to follow up themes emerging in the preliminary analysis. Later data were subjected to the same iterative process within the team to identify and weigh the relative importance of the emerging themes.

Vignette: Mrs Mala's diabetes

We start with a vignette which illustrates several facets of the RMP's appeal to their clients. We had contacted Mrs Mala, an educated woman who came from a relatively affluent Hindu farming family, through a local RMP. She shared her experience of diabetes (colloquially called 'sugar') and her treatment, in the process touching on several themes we shall develop below.

I didn't know during my first pregnancy that I had diabetes, until my baby got affected due to my diabetes and died. It is 20 years back. I was in my parents' house. The doctor [a private gynaecologist] didn't check my sugar. She only did blood pressure check-up. Later, the doctor said, 'we didn't think you might have sugar, otherwise we would have tested the blood sugar'. Nowadays, I visit Dr B's Hospital in Chirala. We have a PHC (primary health centre) in Pedanadnipadu, very near my home. [But] I don't go there. It is not our habit to go to a government hospital. I have visited this private sugar doctor for 12 years, to know whether my sugar is under control. I take the test as well. She gives medicines which helps foot burning, knee pains, sleeplessness and tiredness. We don't go to the government hospital but [instead] to Dr R (an RMP), who is a family doctor. He collects blood samples from

home and gives reports. His clinic is nearby; our house is on his way home from his clinic. He comes by bicycle. Dr B and Dr R have been giving me treatment since the beginning of my sugar, after my first delivery. For many years Dr R has been coming to our home for any treatment, whenever we call him for any simple problems. I get the check-up easily with him (the RMP) when it is difficult to go to Chirala. Particularly in a very hot summer like this, my sugar level goes up to between 160 and 200. So I need to have it controlled immediately. Dr R can help me with this.

Mrs Mala prayed regularly at her local Hindu temple, and believed that her prayers might supplement the medical treatment she sought, and thus help to 'cure' her diabetes. Although she said that Dr B, her private doctor, had often told her that diabetes cannot be cured and instead must be managed, Mrs Mala was still not wholly convinced. She spoke of how he had advised her to watch what she ate. However:

Controlling food is not so easy when you have a function (celebration). When you visit relatives, they always serve heavy (rich) food and insist you eat. It is rude to say no when they offer you something to eat.

Mrs Mala said she knew other diabetes patients ate too much of the 'wrong' food at ceremonies and then dealt with the consequences by getting double doses of medicines from their RMP, even though she professed never to do so. But she was emphatic that she never missed her medication, and had even increased her blood tests from monthly to fortnightly because her RMP could do the test so easily.

Several details are revealing in this vignette. First, Mrs Mala's story illustrates local reliance on one particular RMP, understood as a 'family doctor'. His importance to her lay in his accessibility and willingness to visit at home when required. Second, Mrs Mala's account also conveys her sense of the complementarity of the treatment she was able to obtain from her two doctors – her private specialist in a local town (Dr B) and her RMP (Dr R) for any 'simple problems'. Her remarks suggest that precautionary advice on eating came from her specialist, and not the RMP. But it was the latter who was local enough to make it easier for individuals to give themselves double doses of medication should they feel the need to resort to such measures to control their blood sugar levels after the inevitable excessive eating on festive occasions. And third, Mrs Mala was far from unusual in conveying suspicion of, or even disdain for, state-run medical facilities. These were a last resort. From this starting point, we paint a more general picture of the local appeal of RMPs.

Biomedicine domesticated: the popularity of RMPs

A multiplicity of treatment options exist in and around Guntur but our data suggest that those with diabetes nearly always seek treatment that is biomedical (or allopathic to use a word with much wider currency in India). The word 'diabetes' itself is now widely understood in rural Guntur, even if people tend to speak colloquially of 'sugar' or 'sugar disease' as we have seen.⁹ One remark was typical of several: 'In my opinion there is no medicine for this sugar disease. There is only one chance to get the sugar reduced and that is by maintaining proper English medicines'. Diabetes (at least the type 2 diabetes considered here) itself carried little or no stigma. If anything, it was seen as a mark of modest affluence. People with the disease and family members alike spoke easily about it, and about the medical advice they received to manage their diabetes through modifying dietary habits and taking regular exercise. While

such advice was familiar to many, our informants seemed sceptical about its applicability in the context of their lives. It was not that they doubted its soundness; more that they saw it as inappropriate for their situation, like Mrs Mala. Medication was modifiable; diet was much less modifiable. Exercise was also seen as unrealistic, foundering on a local sense of inappropriateness, particularly for women.

Against this background, the commonest pathway to initial medical diagnosis and treatment in Nagulapadu or Kommuru was a consultation with either a local pharmacist or a local RMP. Most families knew several local RMPs, and commonly consulted one when symptoms suggested medical advice was needed. Indeed all but two of our sample had consulted at least one RMP in the course of their diabetes treatment. Thus a biomedical orientation to treatment did not necessarily lead patients straight to India's formal health sector, whether a public (government) or a private provider. That, however, was a likely second step, for the RMP often referred and even sometimes accompanied a patient to a private clinic in the city for a more definitive diagnosis and for more specialised advice and medication. Much of our evidence from patients related to their dual pattern of consultations, with RMP and city specialist both seen as a necessary support. Most RMPs turn to particular clinics with which they have an established connection. In local belief, the two can work easily in tandem, as Mrs Mala's testimony suggested. This positions the RMP as both informal practitioner and also, perhaps more surprisingly, as informal gatekeeper into the formal health system.

Despite the word 'Registered' in their title, RMPs have in the past rarely been registered with any medical authority, and they practise with no formal qualification. They are individuals who set themselves up as practitioners typically in places where the formal health sector (both government and private) is largely absent, except for government maternal and child health provision. It is for this reason that they are so widely found in rural areas, where few qualified doctors practice. Like private doctors in the city, they are in effect medical entrepreneurs, but operating outside any kind of regulatory regime. The great advantage of RMPs for their clients is that they are local, available and familiar. They charge affordable amounts, typically around Rs.50 for each treatment; they provide easy follow-up treatment, a crucial consideration with a chronic condition like diabetes; and to aid their practice some at least keep rudimentary records of their clientele. Given the burdens illness can bring in rural India, these are major benefits. Most patients recognised the limitations of their RMPs knowledge and skill, while also appreciating the advantages they offered, as reflected in the following remark:

It is better to consult a specialist I thought. Not that I didn't believe RMP's medicines. [But] I thought I should consult a specialist. [My] RMP also suggested to me to consult a doctor. The RMP is also a good doctor.

With this kind of appreciation, RMPs often attract considerable trust among their clientele, even if their medical skills and facilities are limited. Some people refer to their RMP as a doctor (as we saw), or qualify this with the term 'RMP doctor' (as opposed to the 'big doctor', who is medically qualified).¹⁰ The relationship between an RMP and their clients may be almost a hereditary one.¹¹ Another common name that patients used for their RMP was 'compounder'. This referred to the fact that a proportion of RMPs first acquired their medical skills when working as an assistant to a qualified doctor. As one person put it, 'in villages we generally consult compounders; we use his medicines'. RMPs were not invariably biomedical practitioners, we were told, but all those we encountered described themselves as giving primarily 'allopathic' treatment (cf. Gautham *et al.* 2014).¹² Crucially, their referral links to private clinics in the city also position them within biomedicine. Symbols of biomedical practice – like injections, the use of the stethoscope, blood pressure apparatus and glucometer, or advertising

a 'clinic' – also by association convey to clients an RMP's credentials as an allopathic practitioner (cf. Cross and MacGregor 2009, Pinto 2004). In one case, an elderly Muslim Unani practitioner saw his four sons all become RMPs, situating themselves as his inheritors, but unlike their father located pragmatically and rhetorically within biomedicine. Another saw himself as fastidiously keeping blood sugar records, as evidence of his 'modern' practice.

The RMPs willingness to visit people's homes on request was another source of local trust and popularity. Despite rapid social change, women's mobility is still restricted compared to that of men, and the prevailing expectation is that women need to be accompanied when going out in public space, including for a medical consultation. This problem is compounded if a woman has to attend a clinic or hospital in the city. Cultural conventions concerning mobility, strongest in rural areas, tend therefore to curtail the visits of women for health treatment. The willingness of most RMPs to make home visits, collect test results, or accompany their female patients to the city for medical consultations was a major boon. In this way, RMPs were seen as providing a service, at once clinical and cultural, that government health facilities do not offer – one rooted in their cultural access to their clientele. As one woman remarked:

I have visited two diabetes specialists in the past. [Now] we are unable to pay 2–3,000 for tests and everything. I take help from the RMP now. I don't go to his clinic, if I don't feel well I phone him and he comes to my house and gives medicine.

It would be unwise to suggest that this relationship between RMP and rural population always meets approval. Some patients were clearly exasperated at the limitations of the knowledge of RMPs and the ineffectiveness of the medication they can provide, as this woman mentioned:

The RMP gave me one-rupee diabetes tablet. That did not work. Now I am using different medicines. Since it was a cheaper tablet, it didn't work, less power and no use. So I went to a private specialist doctor. I went there without letting him (RMP) know.

Nonetheless, such comments were the exception rather than the rule.

The RMPs' niche: a bridge from the informal to the formal sector?

The previous section has sketched out the basis of the RMPs' appeal for their clientele in an area such as rural Guntur, emphasising their accessibility and affordability as cornerstones of their popular trust. We turn now to the relationship between RMPs and the formal health sector, in both its private and state forms. RMPs portrayed themselves as rural biomedical practitioners, with rudimentary qualifications for the job, gained almost entirely through direct experience and observation. As a group, they were almost invisible to the formal health sector, especially those in its higher echelons. RMPs would not figure in official descriptions of the formal health system.¹³ To the extent that RMPs are acknowledged to exist at a local level, they are likely to be dismissed as quacks: the disdainful retort of one of the PHC sub-centre staff we spoke to was to claim (somewhat mistakenly) that local 'people are civilised, they don't go to RMPs'.

Although the RMPs have no legal standing to practice bio-medicine or dispense medication, the police and courts apparently acted against them only rarely, and no RMP we spoke with feared that they were vulnerable to legal action. 'Police come and go' one said; officers might check their certificates if they have any, but in reality they rarely bothered with those who can

be vouched for in rural communities. It is this sense of being trusted in the community which is so crucial for their position. Our data thus convey little of the sense of threat felt by RMPs/IPs that is reported by both George and Iyer (2014) and Ecks and Basu (2014): either from vulnerability to community rumour or even violence if things went wrong, or from potential vulnerability to state surveillance and arrest as illegal practitioners.

Yet this picture of structural invisibility and politico-legal marginality needs to be qualified. For several years there has been debate within government policy-making circles that RMPs should have a role in implementing Ministry of Health and Family Welfare programmes, as part of a national effort to enhance healthcare in rural areas (May *et al.* 2014). More than most states in India, Andhra Pradesh¹⁴ has started to offer basic certification and a modicum of training for those who desire it, partly in response to a long campaign by RMPs themselves (Gautham *et al.* 2014). Thus, there have been limited top-down and bottom-up pressures for greater acknowledgment of RMPs, although such pressures invariably came up against the institutional resistance of biomedical elites.

More significant than these limited policy initiatives is the evidence of routine practice outlined in the previous section. Our findings indicate well-established links between reputable private clinics in Guntur and village RMPs, as the latter refer their patients for more expert assessment and treatment in urban centres. For such referrals, RMPs received commissions – sometimes apparently as much as 30 per cent of the treatment cost – making this moderately lucrative for them. Moreover, RMPs also said that they sometimes benefited by receiving informal medical advice from clinic staff, to assist them in their own practice. In short, most RMPs formed part of an informal referral network assisting private hospitals and diagnostic centres in towns and cities to reach rural clients. RMPs had no hesitation in advertising their links to private clinics in the city: it assisted their patients and buttressed their credentials as serious practitioners. From the perspective of the city clinic, such a connection was much more reluctantly conceded, affirming the marginality of the RMP even as their utility as a source of referrals was admitted. In this sense, RMPs were in a classic liminal space, surreptitiously acknowledged (by state and medical institutions) while publicly disavowed.

After an initial assessment, patients commonly used the RMP, pharmacy and city clinic in tandem, as Mrs Mala stated. Through this combination of RMP and city clinic, an attempt could be made to maximise convenience and reassurance while minimising cost. The RMP could help to interpret the ‘big doctor’s’ instructions in a familiar idiom, or the specialist might explain more clearly what the RMP could not manage to explain. Two comments by patients with diabetes affirm the utility of RMPs alongside the services of city clinic doctors:

I go only to the RMP Doctor. I never get the test done in hospital for my sugar. I do the test on the machine from the RMP only. I go to the doctors in the hospital in Guntur for other problems.

I get the blood sugar test locally. My doctor is in Guntur. I go alone, by bus. I have sugar for 6 years and I’m using the same prescription for the last 3 years. I usually go to Guntur once every 3 months for a sugar test. If there is any difficulty about going there, then I go to the RMP doctor.

We have outlined the relationship between RMPs and the city clinics of private doctors. But what may be said about the relationship between RMPs and state medicine? In many ways, there was no relationship: government hospitals ignored RMPs, if they were even aware of them, and there was no financial incentive for an RMP to refer a patient to a government hospital. However, PHC or sub-centre staff in rural areas were certainly aware of some of the

RMPs in their locality (and indeed identified them for us). While sub-centres were chiefly responsible for maternal and child health, their staff nonetheless were occasionally consulted by those with chronic conditions of adulthood. However, their knowledge about a condition like diabetes was extremely limited, as some admitted. When one ANM was asked if she was aware of any protocols guiding diabetes treatment she responded:

Diabetes protocol? What is there for us to give them for diabetes? We are not informed on the subject of diabetes. We listen to what doctors tell them. [Then] we tell the patients the same – you should have eaten that, or you might have done this, so your sugar has gone up. Consult your doctor, we tell them. We are not allowed to give advice. We are absolutely not trained in chronic disease.

Faced with such attitudes, it is unsurprising that the RMP is seen to fulfil a need. The one occasion on which more knowledgeable advice might be obtained in these villages from a government service was when the monthly mobile clinic – known locally as the 104 service – visited. This service catered for those with chronic conditions (of which diabetes was a prime example), and it was staffed variously by a doctor, technician, pharmacist and nurse. The 104 service staff, however, insisted that they had no links with local RMPs, and indeed seemed to be among the most scathing about RMPs' capabilities.

Discussion

This study was not designed to evaluate the efficacy of RMP's treatments, and we cannot therefore contribute to debates about the safety or quality of care provided. For these reasons in particular, we hesitate to make policy recommendations. Nonetheless, this study highlights the prominence and ubiquity of practitioners who operate on the margins of biomedicine and who compensate for some of the manifold gaps in the formal healthcare system in rural areas of India. Our data therefore lend support to recent claims that RMPs (or informal providers (IPs) to use the generic label some writers prefer) are in practice an indispensable part of rural healthcare in India, given the absence of affordable, trusted alternatives (Gautham *et al.* 2014, George and Iyer 2013, May *et al.* 2014). In their comparative study of two districts, Gautham *et al.* (2014: 27) conclude that 'IPs are a significant source of basic health care for rural residents' before emphasising the ambiguity of their position: 'Although the public health community has gradually recognised the importance of IPs ... Much of the Indian medical establishment views them as dangerous quacks'.

Such patterns and reactions are not unique to India. A recent review (Sudhinaraset *et al.* 2013) found that informal providers make up a significant portion of the healthcare sector globally. Manifold definitional problems beset comparison in this field, not least concerning the kinds of practitioner included under the rubric of 'informal provider' (see Cross and MacGregor 2009). But studies from Bangladesh (Ahmed *et al.* 2009), the Middle East (Adib 2004, Morsy 1988) and Turkey (Dole 2004) each point towards a similar conclusion, with informal practitioners playing a major role in health care provision.

However, beyond judgments about the extent of reliance on their services or the relative benefits of their practice, the ubiquity of RMPs poses important questions about the lack of effective reach of the state and its institutions in rural health care in India. This is a theme explored by a number of ethnographers: Ecks and Basu (2009, 2014), Jeffery and Jeffery (2008, 2010b) and Pinto (2004). We concentrate here on the work of Pinto, who writes about Uttar Pradesh. She explores the micro-processes which create informal practitioners in rural settings, a niche

occupied by 'practitioners who are neither "quacks" nor legitimate doctors but who invent roles for themselves as medical authorities and representatives of development' (Pinto 2004: 337). The practitioners she presents are not exact equivalents to RMPs, but they fulfil a remarkably similar role, and share with RMPs the attractions of familiarity, easy access and affordability. Crucially, the 'medicine' they practise is presented within a biomedical frame, with practitioners seeing themselves as agents of 'modern' medicine, and in the process as agents of 'development' also. 'Despite all the failures, gaps, and "rollbacks" of the state, the spirit of development thrives in everyday encounters outside the range of formal structures' (Pinto 2004: 339). Her analysis emphasises the mimetic quality of what informal practitioners do: they seek to imitate where they can the idioms and procedures of those they have observed at work in formal positions and structures. That is the way, she argues, to 'make the ersatz both legitimate and necessary' (Pinto 2004: 351), and in this context she discusses the giving of injections as an instance of borrowed legitimacy, for 'giving injections is a key means by which people carve out niches as medical practitioners' (Pinto 2004: 351) – a point that applies equally to the RMPs we encountered.

Pinto's (2004: 337) account of informality-in-the-making examines the agency of individual practitioners against a backdrop of (and in response to) the 'absence or uncertain presence of official institutions' of medical provision. Her emphasis is on the resourcefulness of informal-sector practitioners in engaging elements of institutional rationality and practice which allow them to compensate for the perceived gaps or failings of the formal health system in rural areas; and she focuses on ways in which these uncategorised practitioners create for themselves sufficient credentials and legitimacy to attract a local clientele.

It is instructive to contrast Pinto's depiction of informal practices in rural Indian healthcare with an influential recent perspective on informal practices in urban India – one moreover which comes from a quite different arena of public affairs to that of health care. Ananya Roy's 'Why India cannot plan its cities' (2009) is concerned with land-use planning. In this, Roy portrays processes of informality (or informalisation) not only as a sphere of popular improvisation, a response from below to bureaucratic constraints or absences (like Pinto), but equally and more radically as an instrument of state practice, generated from above. She argues that, in relation to land-use planning, the state's *modus operandi* is precisely through forms of informalisation, in which 'unmapping', deregulation and exceptionalism are part of a repertoire for creating bureaucratic flexibility. In a passage which has parallels with Das (2004) on the illegibility of the state, Roy (2009: 81) writes:

While it has been often assumed that the modern state governs ... through technologies of visibility ... I argue that regimes of urban governance also operate through an 'unmapping' of cities ... forms of deregulation and unmapping, that is, informality, allow the state considerable territorialized flexibility to alter land use ... the state itself is a deeply informalized entity.

Roy's 2009 article (also anticipated in Roy 2005) has been an influential challenge to conventional thinking about the role of the informal sector in the supposed failures of urban planning in India. Far from informal practices being simply an obstacle to the Indian state's efforts to plan, she contends that informality has been at the heart of the state's own practices of governance, giving a quasi-legitimacy to repeated states of exception (Roy 2005, 2009). And far from being confined to the economic activities of the poor, Roy (2005) insisted on informality as a generalised feature of urbanisation in India – as applicable to middle class or elite contexts as to squatter settlements.

But can Roy's thesis be extended to healthcare governance? The answer has to be no – but it is the reason for that negative conclusion that makes this a valuable comparative exercise,

for it usefully highlights crucial differences between these two arenas. Although one factor common to town planning and health care is a routinised acceptance of informal non-regulated processes, informality is generated and perpetuated in markedly different ways in these two sectors of state intervention. Crucially, control of land-use brings with it economic power, in a way that has no parallel in healthcare provision, least of all in rural contexts. Land is a perennial asset; population healthcare is a perennial cost. In urban planning, Roy can argue that a regime of informality, assisted by invisibility and unmapping, preserves government power and patronage. The state is unlikely to have the same investment in preserving a regime of informality in healthcare, as it offers no economic or political advantages, no comparable levers of potential control or patronage. If 'informality, and the state of exception that it embodies, is produced by the state' (Roy 2005: 155) it is hard to see how such exceptionalism is produced in rural healthcare. Thus, the title of Roy's 2009 article and its argument would not, we suggest, translate to a healthcare context.

To conclude, however, that Roy's theorisation of Indian land-use planning cannot be transposed to health service delivery and planning is not to underestimate the durability of the informal sector in rural health care, nor the state's implication in that durability. The Indian state indeed indirectly relies on the ubiquity of the informal health sector: it is the unplanned, unintended safety-valve which compensates for major limitations in provision (Gautham *et al.* 2014, Jeffery and Jeffery 2008, 2010a, 2010b, Pinto 2004). Informality in health care is a product of the formal sector's absence rather than its presence, flourishing because the state cannot – or will not – reach into these areas of people's lives. These broader political-economic claims about the absence of the state in an arena as central to people's daily lives as medical treatment are, we have suggested, illuminated by exploring the role of the RMP.

Yet as Pinto's (2004) argument suggests, there is more at work here than the state's failures in healthcare provision; equally important is the facility with which the informal sector reinvents itself, adapting to changing local circumstances and needs. Informal practices continue to thrive so readily at local level because they emerge out of a fabric of pluralistic medical practices, familiar to practitioners and potential clients alike. Part of the versatility of informal practitioners like RMPs is their capacity to present and practice within biomedicine while simultaneously behaving in ways which resemble, for their clientele, practitioners of Indian systems of medicine like Ayurveda. Thus we return to the hybrid impulses which continually inflect local medical practices, especially in rural India, as we mentioned at the start (Hardiman and Mukharji 2012, Sheehan 2009, Sujatha 2007).

Address for correspondence: Peter Phillimore, Sociology, School of Geography, Politics & Sociology, University of Newcastle, Claremont Bridge Building, Newcastle upon Tyne, NE1 7RU. E-mail: peter.phillimore@newcastle.ac.uk

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Notes

- 1 Our paper stems from a 'proof-of-concept' study which was designed to appraise the suitability of potential mHealth applications for people with diabetes in rural areas of India. This is the topic of another paper. The term mHealth refers to the delivery of health-related services via mobile communications technology.
- 2 India now has a major problem with diabetes (Diamond 2011, Venkataraman *et al.* 2009). While the surge in diabetes is most evident in urban areas, prevalence is also increasing in rural India (Mohan *et al.* 2008). The pressure this increase in diabetes creates within fragile health systems in developing countries is considerable (Venkataraman *et al.* 2009).
- 3 For earlier references to these practitioners, see Khare (1996) and Rohde and Viswanathan (1995).
- 4 We concur with Cross and MacGregor (2009: 13), who write: 'Rigid definitions of biomedical practice miss the hybrid nature of everyday medical practice in many parts of the world where providers adapt or syncretise their practices and, in doing so, blur the boundaries between biomedicine and nonallopathic traditions'.
- 5 In theory those below the poverty line have access to state health insurance. In practice there is meagre financial risk protection in most states (Jeffery and Jeffery 2008).
- 6 Andhra Pradesh was in the process of being divided into two states at the time of our fieldwork. Guntur remains in the newly constituted Andhra Pradesh.
- 7 This was highlighted by a statue to B.R. Ambedkar, political symbol of the fight for Dalit rights, at the entrance to the Christian/Dalit quarter of Nagulapadu, not far from the village church. At the time of fieldwork the statue had been erected but had yet to be unveiled, due (we were told) to high caste opposition to its placement at a spot where high caste as well as Dalit homes were nearby.
- 8 Inclusion and exclusion criteria were established in advance: we selected the 30–59 age range, and excluded those with severe diabetes-related complications. We kept in mind that it was crucial that no individual should be so unwell as to be unable to use a mobile phone.
- 9 The Telugu word *madhumeham* was sometimes identified as a term used in the past instead of 'sugar', though informants said that it was now rarely if ever used.
- 10 Cf. Gautham *et al.* (2011) who refer to the 'small doctor'.
- 11 Like the relationship common between a client and practitioners of systems of Indian medicine such as Ayurveda or Unani Tibb.
- 12 Gautham *et al.* (2014) compare districts in Uttarakhand (Tehri Garhwal) and Andhra Pradesh (Guntur). They indicate that whereas in rural Andhra Pradesh informal practitioners largely identified themselves as practising biomedicine, in Uttarakhand the picture was more variable.
- 13 The Andhra Pradesh Chapter of the Indian Medical Association is unequivocal in its disdain of RMPs in its campaign against 'illegal medical practice' and 'quackery' (<http://www.imaapstate.com/downloads/32%20anti%20quackery.pdf>).
- 14 This statement refers to the undivided Andhra Pradesh up to 2014.

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